

Preface

The special edition highlights recent technological improvements in fabricating silicon carbide-based power electronics devices. The articles cover advances in Schottky contacts, the development of high-performance Schottky barrier diodes, and methods to reduce contact resistance through processes such as sulfurization, argon plasma treatment, and optimised contact formation.

Further emphasis is placed on innovations in trench etching, gate oxide engineering, and techniques to extend gate oxide lifetime, alongside modern approaches in wafer dicing, including plasma dicing, laser ablation, and laser annealing.

This special edition provides a comprehensive overview of the latest process enhancements that underpin the continued advancement of SiC-based device technologies by addressing methods of compound semiconductor processing and technologies of electronics device structure forming with a focus on end-device reliability.